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MICRO LOGIC CORP.
HACKENSACK, N.J.

54/7400 TTL

INSTANT REFERENCE CARD

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COVERAGE: This card covers 5400 and 7400 series TTL ICs made by Texas Instruments, Signetics, National Semiconductor, Motorola, and Fairchild except for some special functions. Parts being phased out are included. ALS and AS availability is not given.

TYPES: R=74 H=74H L=74L X=74LS S=74S

# COLUMN: Gives number of similar devices on chip.

SPECS: Voltage and current specs apply to the 74XX commercial version and usually concern the outputs. Currents apply to the low state. Limits may be less for 54XX parts.

PINOUTS: Pinouts apply to standard DIPs. Flat-packs may differ. An asterisk indicates an active low or negative edge triggered signal. The symbol '(*)' in the description column means not all asterisks are shown. 'X*Y' means function X is active low. Most tri-state controls are inverted (e.g. 'G*'). They enable data when low and active HIGH impedance when HIGH.

NOTES: "AND-OR" gate IC inputs are grouped in alphabetic order. For example, "(2,3,2,2)" means input groups are: AB, CDE, FG, HI. Some shift registers that feature left and right shifting require outputs routed back to inputs for left shifting.

ABBREVIATIONS:

CK = CLOCK
COM = COMMON
CR = CLEAR
EQ = EQUAL
EX = EXPANDABLE
FF = FLIP FLOP
GT = GREATER THAN
HLS = HIGH LEVEL SENSITIVE
INV = INVERTING
L/R = LEFT / RIGHT
LLS = LOW LEVEL SENSITIVE
LT = LESS THAN
MA = MILLI-AMPERES
MOD = MODULO
MS = MASTER SLAVE
NC = NO CONNECTION
NCA = NO CONNECTION ALLOWED
NET = NEGATIVE EDGE TRIGGERED
OC = OPEN COLLECTOR
OE = OUTPUT ENABLE
PET = POSITIVE EDGE TRIGGERED
PR = PRESET
PU = PULL UP
RT = RETRIGGERABLE
SR = SHIFT REGISTER
ST = SCHMITT TRIGGER
TS = TRI-STATE
WS = WITH STROBE
X3 = EXCESS-3 CODE
X3G = EXCESS-3 GRAY CODE

74-	TYPE	#	DESCRIPTION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
00	ALL	4	NAND2	1A	1B	1Y	2A	2B	2Y	GND	3Y	3A	3B	4Y	4A	4B	VCC		
01	RX	4	NAND2 ... OC	1Y	1A	1B	2Y	2A	2B	GND	3A	3B	3Y	4A	4B	4Y	VCC		
01	H	4	NAND2 ... OC	1A	1B	1Y	2A	2B	2Y	GND	3Y	3A	3B	4Y	4A	4B	VCC		
02	RLXS	4	NOR2	1Y	1A	1B	2Y	2A	2B	GND	3A	3B	3Y	4A	4B	4Y	VCC		
03	RLXS	4	NAND2 ... OC	1A	1B	1Y	2A	2B	2Y	GND	3Y	3A	3B	4Y	4A	4B	VCC		
04	ALL	6	INVERT	1A	1Y	2A	2Y	3A	3Y	GND	4Y	4A	5Y	5A	6Y	6A	VCC		
05	RHXS	6	INVERT ... OC	1A	1Y	2A	2Y	3A	3Y	GND	4Y	4A	5Y	5A	6Y	6A	VCC		
06	R	6	INVERT ... OC 30V 40MA	1A	1Y	2A	2Y	3A	3Y	GND	4Y	4A	5Y	5A	6Y	6A	VCC		
07	R	6	BUFFER ... OC 30V 40MA	1A	1Y	2A	2Y	3A	3Y	GND	4Y	4A	5Y	5A	6Y	6A	VCC		
08	ALL	4	AND2	1A	1B	1Y	2A	2B	2Y	GND	3Y	3A	3B	4Y	4A	4B	VCC		
09	RLXS	4	AND2 ... OC	1A	1B	1Y	2A	2B	2Y	GND	3Y	3A	3B	4Y	4A	4B	VCC		
10	ALL	3	NAND3	1A	1B	2A	2B	2C	2Y	GND	3Y	3A	3B	3C	1Y	1C	VCC		
11	ALL	3	AND3	1A	1B	2A	2B	2C	2Y	GND	3Y	3A	3B	3C	1Y	1C	VCC		
12	RX	3	NAND3 ... OC	1A	1B	2A	2B	2C	2Y	GND	3Y	3A	3B	3C	1Y	1C	VCC		
13	RX	2	NAND4 ... ST	1A	1B	NC	1C	1D	1Y	GND	2Y	2A	2B	NC	2C	2D	VCC		
14	RX	6	INVERT ... ST	1A	1Y	2A	2Y	3A	3Y	GND	4Y	4A	5Y	5A	6Y	6A	VCC		
15	HXS	3	AND3 ... OC	1A	1B	2A	2B	2C	2Y	GND	3Y	3A	3B	3C	1Y	1C	VCC		
16	R	6	INVERT ... OC 15V 40MA	1A	1Y	2A	2Y	3A	3Y	GND	4Y	4A	5Y	5A	6Y	6A	VCC		
17	R	6	BUFFER ... OC 15V 40MA	1A	1Y	2A	2Y	3A	3Y	GND	4Y	4A	5Y	5A	6Y	6A	VCC		
18	X	2	NAND4 ... ST	1A	1B	NC	1C	1D	1Y	GND	2Y	2A	2B	NC	2C	2D	VCC		
19	X	6	INVERT ... ST	1A	1Y	2A	2Y	3A	3Y	GND	4Y	4A	5Y	5A	6Y	6A	VCC		
20	ALL	2	NAND4	1A	1B	NC	1C	1D	1Y	GND	2Y	2A	2B	NC	2C	2D	VCC		
21	RHX	2	AND4	1A	1B	NC	1C	1D	1Y	GND	2Y	2A	2B	NC	2C	2D	VCC		
22	RHXS	2	NAND4 ... OC	1A	1B	NC	1C	1D	1Y	GND	2Y	2A	2B	NC	2C	2D	VCC		
23	R	2	NOR4 ... EX WS	1X	1A	1B	1G	1C	1D	1Y	GND	2Y	2A	2B	2G	2C	2D	1X*	VCC
24	X	4	NAND2 ... ST	1A	1B	1Y	2A	2B	2Y	GND	3Y	3A	3B	4Y	4A	4B	VCC		
25	R	2	NOR4 ... WS	1A	1B	1G	1C	1D	1Y	GND	2Y	2A	2B	2G	2C	2D	VCC		
26	RLX	4	NAND2 ... OC 15V	1A	1B	1Y	2A	2B	2Y	GND	3Y	3A	3B	4Y	4A	4B	VCC		
27	RX	3	NOR3	1A	1B	2A	2B	2C	2Y	GND	3Y	3A	3B	3C	1Y	1C	VCC		
28	RX	4	NOR2 ... 48,24MA	1Y	1A	1B	2Y	2A	2B	GND	3A	3B	3Y	4A	4B	4Y	VCC		
30	ALL	1	NAND8	A	B	C	D	E	F	GND	Y	NC	NC	G	H	NC	VCC		
32	RLXS	4	OR2	1A	1B	1Y	2A	2B	2Y	GND	3Y	3A	3B	4Y	4A	4B	VCC		
33	RX	4	NOR2 ... OC 48,24MA	1Y	1A	1B	2Y	2A	2B	GND	3A	3B	3Y	4A	4B	4Y	VCC		
37	RXS	4	NAND2 ... 48,24,60MA	1A	1B	1Y	2A	2B	2Y	GND	3Y	3A	3B	4Y	4A	4B	VCC		
38	RXS	4	NAND2 ... OC 48,24,60MA	1A	1B	1Y	2A	2B	2Y	GND	3Y	3A	3B	4Y	4A	4B	VCC		
39	R	4	NAND2 ... BUFFER OC 48MA	1Y	1A	1B	2Y	2A	2B	GND	3A	3B	3Y	4A	4B	4Y	VCC		
40	RHXS	2	NAND4 ... 48,60,24,60MA	1A	1B	NC	1C	1D	1Y	GND	2Y	2A	2B	NC	2C	2D	VCC		
41	R	1	DECODER ... 4/10 50V	Q8*	Q9*	A	D	VCC	B	C	Q2*	Q3*	Q7*	Q6*	GND	Q4*	Q5*	Q1*	Q0*
42	RLX	1	DECODER ... 4/10	Q0*	Q1*	Q2*	Q3*	Q4*	Q5*	Q6*	GND	Q7*	Q8*	Q9*	ID	IC	IB	IA	VCC
43	RL	1	DECODER ... X3/10	Q0*	Q1*	Q2*	Q3*	Q4*	Q5*	Q6*	GND	Q7*	Q8*	Q9*	ID	IC	IB	IA	VCC
44	RL	1	DECODER ... X3G/10	Q0*	Q1*	Q2*	Q3*	Q4*	Q5*	Q6*	GND	Q7*	Q8*	Q9*	ID	IC	IB	IA	VCC
45	R	1	DECODER ... 4/10 OC 30V 80MA	Q0*	Q1*	Q2*	Q3*	Q4*	Q5*	Q6*	GND	Q7*	Q8*	Q9*	ID	IC	IB	IA	VCC
46	RL	1	DECODER ... 4/7SEG OC 30V C-ANODE	IB	IC	LT*	BO*	BI*	ID	IA	GND	QE*	QD*	QC*	QB*	QA*	QG*	QF*	VCC
47	RLX	1	DECODER ... 4/7SEG OC 15V C-ANODE	IB	IC	LT*	BO*	BI*	ID	IA	GND	QE*	QD*	QC*	QB*	QA*	QG*	QF*	VCC
48	RX	1	DECODER ... 4/7SEG PU C-CATHODE	IB	IC	LT*	BO*	BI*	ID	IA	GND	QE	QD	QC	QB	QA	QG	QF	VCC
49	RX	1	DECODER ... 4/7SEG OC C-CATHODE	IB	IC	BI*	ID	IA	QE	GND	QD	QC	QB	QA	QG	QF	VCC		
50	RH	2	AND2-NOR2 ... 1-GATE-EXPDBL	1A	2A	2B	2C	2D	2Y	GND	1Y	1C	1D	1X	1X*	1B	VCC		
51	RHS	2	AND2-NOR2	1A	2A	2B	2C	2D	2Y	GND	1Y	1C	1D	NCA	NCA	1B	VCC		
51	LX	1	AND3-NOR2 ... & AND2-NOR2	1A	2A	2B	2C	2D	2Y	GND	1Y	1D	1E	1F	1B	1C	VCC		
52	H	1	AND(2,3,2,2)-OR4 ... EX	A	B	C	D	E	NC	GND	Y	X	F	G	H	I	VCC		
53	R	1	AND2-NOR4 ... EX	A	C	D	E	F	NC	GND	Y	G	H	X	X*	B	VCC		
53	H	1	AND(2,2,3,2)-NOR4 ... EX	A	C	D	E	F	G	GND	Y	H	I	X	X*	B	VCC		
54	R	1	AND2-NOR4	A	C	D	E	F	NC	GND	Y	G	H	NCA	NCA	B	VCC		
54	H	1	AND(2,2,3,2)-NOR4	A	C	D	E	F	G	GND	Y	H	I	NCA	NCA	B	VCC		
54	LX	1	AND(2,3,3,2)-NOR4	A	B	C	D	E	Y	GND	NC	F	G	H	I	J	VCC		
55	H	1	AND4-NOR2 ... EX	A	B	C	D	X	NC	GND	Y	X*	E	F	G	H	VCC		
55	LX	1	AND4-NOR2	A	B	C	D	NC	NC	GND	Y	NC	E	F	G	H	VCC		
60	RH	2	EXPANDER4	1A	1B	1C	2A	2B	2C	GND	2D	2X*	2X	1X	1X*	1D	VCC		
61	H	3	EXPANDER3	1A	1B	1C	2A	2B	2C	GND	2X	1X	3X	3A	3B	3C	VCC		
62	H	1	AND(2,3,3,2)-OR4 ... EXPANDER	A	B	C	D	E	X*	GND	X	F	G	H	I	J	VCC		
63	X	6	CURRENT-SENSE-INTERFACE	1A	1Y	2Y	2A	3A	3Y	GND	4Y	4A	5A	5Y	6Y	6A	VCC		
64	S	1	AND(4,2,3,2)-NOR4	A	E	F	G	H	I	GND	Y	J	K	B	C	D	VCC		
65	S	1	AND(4,2,3,2)-NOR4 ... OC	A	E	F	G	H	I	GND	Y	J	K	B	C	D	VCC		
70	R	1	FF ... JK PET PR CLR (AND'ED JK)	NC	CR*	J1	J2	J*	Q*	GND	Q	K*	K1	K2	CK	PR*	VCC		
71	H	1	FF ... JK MS PR (AND-OR'ED JK)	J1A	J1B	J2A	J2B	PR*	Q	GND	Q*	K1A	K1B	K2A	K2B	CK*	VCC		
71	L	1	FF ... RS MS PR CLR (AND'ED RS)	NC	CR*	S1	S2	S3	Q*	GND	Q	R1	R2	R3	CK*	PR*	VCC		
72	RHL	1	FF ... JK MS PR CLR (AND'ED JK)	NC	CR*	J1	J2	J3	Q*	GND	Q	K1	K2	K3	CK*	PR*	VCC		
73	RHLX	2	FF ... JK CLR (CK*, CR*) (LS IS NET)	1CK	1CR	1K	VCC	2CK	2CR	2J	2Q*	2Q	2K	GND	1Q	1Q*	1J		
74	ALL	2	FF ... D-TYPE PET PR CLR (CR* PR*)	1CR	1D	1CK	1PR	1Q	1Q*	GND	2Q*	2Q	2PR	2CK	2D	2CR	VCC		
75	RLX	2	LATCH2 ... HLS	1Q*	1D	2D	E34	VCC	3D	4D	4Q*	4Q	3Q	3Q*	GND	E12	2Q*	2Q	1Q
76	RHX	2	FF ... JK (CK*, CR*, PR*) (LS IS NET)	1CK	1PR	1CR	1J	VCC	2CK	2PR	2CR	2J	2Q*	2Q	2K	GND	1Q*	1Q	1K
77	RX	2	LATCH2 ... HLS	1D	2D	E34	VCC	3D	4D	NC	4Q	3Q	NC	GND	E12	2Q	1Q		
78	H	2	FF ... JK PR COM-CLR COM-CLK (PR*)	1K	1Q	1Q*	1J	2Q*	2Q	GND	2K	CK*	2PR	2J	CR*	1PR	VCC		
78	LX	2	FF ... JK PR COM-CLR COM-CLK (PR*)	CK*	1PR	1J	VCC	CR*	2PR	2K	2Q	2Q*	2J	GND	1Q*	1Q	1K		
80	R	1	ADDER ... GATED COMPLEMENTARY	BB	BC	CN	CN1	SM	SM*	GND	A1	A2	AA	AC	B1	B2	VCC		
81	R	1	RAM ... 16-BY-1	AX3	AX2	AX1	VCC	AY1	AY2	AY3	AY4	WR0	GND	S0	S1	WR1	AX4		
82	R	1	ADDER ... 2-BIT FULL	SM1	A1	B1	VCC	C0	NC	NC	NC	NC	C2	GND	SM2	B2	A2		
83	RX	1	ADDER ... 4-BIT FULL FAST-CARRY	A4	SM3	A3	B3	VCC	SM2	B2	A2	SM1	A1	B1	GND	C0	C4	SM4	B4
84	R	1	RAM ... 16-BY-1	AX4	AX3	AX2	AX1	VCC	AY1	AY2	AY3	AY4	W0B	W0A	GND	S0	S1	W1B	W1A
85	RXS	1	COMPARATOR ... 4-BIT MAGNITUDE	IB3	ILT	IEQ	IGT	QGT	QEQ	QLT	GND	IB0	IA0	IB1	IA1	IA2	IB2	IA3	VCC
85	L	1	COMPARATOR ... 4-BIT MAGNITUDE	IB2	IA2	QEQ	IGT	ILT	IEQ	IA1	GND	IB1	IA0	IB0	QLT	QGT	IB3	IA3	VCC
86	RXS	4	XOR2	1A	1B	1Y	2A	2B	2Y	GND	3Y	3A	3B	4Y	4A	4B	VCC		
86	L	4	XOR2	1A	1B	1Y	2Y	2A	2B	GND	3A	3B	3Y	4Y	4A	4B	VCC		
87	H	1	TRUE/COMP-ZERO/ONE ... 4-BIT	C	A1	Y1	NC	A2	Y2	GND	B	Y3	A3	NC	Y4	A4	VCC		
88	R	1	ROM ... 32-BY-8 OC	DO1	DO2	DO3	DO4	DO5	DO6	DO7	GND	DO8	ADA	ADB	ADC	ADD	ADE	CS*	VCC
89	RLX	1	RAM ... 16-BY-4	ADA	ME*	WE*	DI1	Q1*	DI2	Q2*	GND	Q3*	DI3	Q4*	DI4	ADD	ADC	ADB	VCC
90	RLX	1	COUNTER-10 ... (2×5) CLR SET9	IB*	R01	R02	NC	VCC	R91	R92	QC	QB	GND	QD	QA	NC	IA*		
91	RLX	1	SHREG8 ... SISO GATED-INPUT	NC	NC	NC	NC	VCC	NC	NC	NC	CK*	GND	IB	IA	QH	QH*		
92	RX	1	COUNTER-12 ... (2×6) CLR	IB*	NC	NC	NC	VCC	R01	R02	QD	QC	GND	QB	QA	NC	IA*		
93	RX	1	COUNTER-16 ... (2×8) CLR	IB*	R01	R02	NC	VCC	NC	NC	QC	QB	GND	QD	QA	NC	IA*		
93	L	1	COUNTER-16 ... (2×8) CLR	R01	R02	NC	VCC	NC	NC	NC	IB*	QB	QC	GND	QD	QA	IA*		
94	R	1	SHREG4 ... SISO DUAL-PAR-PRESETS	P1A	P1B	P1C	P1D	VCC	PE1	SI	CK	Q	CR	P2D	GND	P2C	P2B	PE2	P2A
95	RX	1	SHREG4 ... PIPO L/R	SI	IA	IB	IC	ID	R*L	GND	L*	R*	QD	QC	QB	QA	VCC		
95	L	1	SHREG4 ... PIPO L/R	SI	IB	IC	VCC	ID	R*L	R*	L*	QD	QC	GND	QB	QA	IA		
96	RLX	1	SHREG5 ... SIPO CLR PAR-PRESETS	CK	PA	PB	PC	VCC	PD	PE	PEN	SI	QE	QD	GND	QC	QB	QA	CR*
97	R	1	RATE-MULTIPLIER ... 6-BIT SYNC	RIB	RIE	RIF	RIA	QZ*	QY	EO*	GND	CK	ST*	EI*	UC*	CR	RIC	RID	VCC
98	L	1	SELECTOR-LATCH ... 4-BIT 1-OF-2	IA2	IA1	IB1	IB2	IC1	IC2	ID2	GND	1*2	CK*	QD	ID1	QC	QB	QA	VCC
99	L	1	SHREG4 ... PIPO JK L/R	IA	J	IB	IC	VCC	ID	R*L	R*	L*	QD	QD*	QC	GND	QB	QA	K*
100	R	1	LATCH8 ... HLS DUAL-4-BIT	NC	1D1	1D2	1Q2	1Q1	NC	GND	2Q1	2Q2	2D2	2D1	2G				
				NC	NC	2D3	2D4	2Q4	2Q3	1Q3	1Q4	1D4	1D3	1G	VCC				
101	H	1	FF ... JK NET PR (AND-OR'ED JK)	J1A	J1B	J2A	J2B	PR*	Q	GND	Q*	K1A	K1B	K2A	K2B	CK*	VCC		
102	H	1	FF ... JK NET PR CLR (AND'ED JK)	NC	CR*	J1	J2	J3	Q*	GND	Q	K1	K2	K3	CK*	PR*	VCC		
103	H	2	FF ... JK NET CLR (CK*, CR*)	1CK	1CR	1K	VCC	2CK	2CR	2J	2Q*	2Q	2K	GND	1Q	1Q*	1J		
106	H	2	FF ... JK NET PR CLR (CK*, CR*, PR*)	1CK	1PR	1CR	1J	VCC	2CK	2PR	2CR	2J	2Q*	2Q	2K	GND	1Q*	1Q	1K
107	RX	2	FF ... JK CLR (CK*, CR*) (LS IS NET)	1J	1Q*	1Q	1K	2Q	2Q*	GND	2J	2CK	2CR	2K	1CK	1CR	VCC		
108	H	2	FF ... JK NET PR COM-CK-CR (PR*)	1K	1Q	1Q*	1J	2Q*	2Q	GND	2K	CK*	2PR	2J	CR*	1PR	VCC		
109	RXS	2	FF ... JK* PET PR CLR (CR* PR*)	1CR	1J	1K*	1CK	1PR	1Q	1Q*	GND	2Q*	2Q	2PR	2CK	2K*	2J	2CR	VCC

74-	TYPE	#	DESCRIPTION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
110	R	1	FF MS DATA-LOCKOUT (AND'ED JK)	NC	CR*	J1	J2	J3	Q*	GND	Q	K1	K2	K3	CK*	PR*	VCC						
111	R	2	FF JK MS DATA-LOCK (CK*, CR*, PR*)	1K	1PR	1CR	1J	1CK	1Q*	1Q	GND	2Q	2Q*	2CK	2J	2CR	2PR	2K	VCC				
112	XS	2	FF ... JK NET PR CLR (CK*, CR*, PR*)	1CK	1K	1J	1PR	1Q	1Q*	2Q*	GND	2Q	2PR	2J	2K	2CK	2CR	1CR	VCC				
113	XS	2	FF ... JK NET PR (CK*, PR*)	1CK	1K	1J	1PR	1Q	1Q*	GND	2Q*	2Q	2PR	2J	2K	2CK	VCC						
114	XS	2	FF ... JK NET PR COM-CK-CR (PR*)	CR*	1K	1J	1PR	1Q	1Q*	GND	2Q*	2Q	2PR	2J	2K	CK*	VCC						
116	R	2	LATCH4 ... LLS CLR (CR*)	1CR	1G*	1G*	1D1	1Q1	1D2	1Q2	1D3	1Q3	1D4	1Q4	GND								
				2CR	2G*	2G*	2D1	2Q1	2D2	2Q2	2D3	2Q3	2D4	2Q4	VCC								
120	R	2	PULSE-SYNCHRONIZER ... 48MA (S*)	1M	1S1	1S2	1R*	1C	1Y	1Y*	GND	2Y*	2Y	2C	2R*	2S1	2S2	2M	VCC				
121	RL	1	ONESHOT ... ST T=0.7RC R=2K-40K	Q*	NC	A1*	A2*	B	Q	GND	NC	RIN	CAP	RC	NC	NC	VCC						
122	RLX	1	ONESHOT ... RT CLR R=5K-50K (R,L)	A1*	A2*	B1	B2	CR*	Q*	GND	Q	RIN	NC	CAP	NC	RC	VCC						
123	RLX	2	ONESHOT ... RT CLR R=5K-50K (CR*)	1A*	1B	1CR	1Q*	2Q	2CP	2RC	GND	2A*	2B	2CR	2Q*	1Q	1CP	1RC	VCC				
125	RX	4	BUFFER ... TS (TS FOR C=1)	1C*	1A	1Y	2C*	2A	2Y	GND	3Y	3A	3C*	4Y	4A	4C*	VCC						
126	RX	4	BUFFER ... TS (TS FOR C=0)	1C	1A	1Y	2C	2A	2Y	GND	3Y	3A	3C	4Y	4A	4C	VCC						
128	R	4	LINE-DRIVER-NOR2 ... 48MA	1Y	1A	1B	2Y	2A	2B	GND	3A	3B	3Y	4A	4B	4Y	VCC						
132	RXS	4	NAND2 ... ST	1A	1B	1Y	2A	2B	2Y	GND	3Y	3A	3B	4Y	4A	4B	VCC						
133	XS	1	NAND-13	A	B	C	D	E	F	G	GND	Y	H	I	J	K	L	M	VCC				
134	S	1	NAND-12 ... TS (TS FOR OC=1)	A	B	C	D	E	F	G	GND	Y	H	I	J	K	L	OC*	VCC				
135	S	4	XOR-XNOR2 ... COM-MODE-CNTRL	1A	1B	1Y	12C	2A	2B	2Y	GND	3Y	3A	3B	34C	4Y	4A	4B	VCC				
136	RXS	4	XOR2 ... OC	1A	1B	1Y	2A	2B	2Y	GND	3Y	3A	3B	4Y	4A	4B	VCC						
137	XS	1	DECODER-LATCH ... 3/8	A	B	C	GL*	G2*	G1	Y7*	GND	Y6*	Y5*	Y4*	Y3*	Y2*	Y1*	Y0*	VCC				
138	XS	1	DECODER ... 3/8	A	B	C	GA*	GB*	GC	Y7*	GND	Y6*	Y5*	Y4*	Y3*	Y2*	Y1*	Y0*	VCC				
139	XS	2	DECODER ... 2/4 (Y*)	1G*	1A	1B	1Y0	1Y1	1Y2	1Y3	GND	2Y3	2Y2	2Y1	2Y0	2B	2A	2G*	VCC				
140	S	2	LINE-DRIVER-NAND4 ... 60MA	1A	1B	NC	1C	1D	1Y	GND	2Y	2A	2B	NC	2C	2D	VCC						
141	R	1	DECODER ... 4/10 60V	Q8*	Q9*	A	D	VCC	B	C	Q2*	Q3*	Q7*	Q6*	GND	Q4*	Q5*	Q1*	Q0*				
142	R	1	CNTR-LTCH-DCDR ... 4/10 60V	CR*	Q7*	Q6*	Q4*	Q5*	Q3*	Q2*	GND	Q1*	Q0*	Q8*	Q9*	S*	QD*	CK	VCC				
143	R	1	CNTR-LTCH-DCDR ... 4/7SEG 15MA-LED	SC*	CK	CR*	RB*	BI	BO*	IDP	LP*	LD*	LF*	LE*	GND								
				LG*	LC*	LA*	LB*	QA	QB	QC	QD	LSI	MC*	PC*	VCC								
144	R	1	CNTR-LTCH-DCDR ... 4/7SEG OC 15V	SC*	CK	CR*	RB*	BI	BO*	IDP	LP*	LD*	LF*	LE*	GND								
				LG*	LC*	LA*	LB*	QA	QB	QC	QD	LSI	MC*	PC*	VCC								
145	RX	1	DECODER ... 4/10 15V 80MA	Q0*	Q1*	Q2*	Q3*	Q4*	Q5*	Q6*	GND	Q7*	Q8*	Q9*	D	C	B	A	VCC				
147	RX	1	PRIORITY-ENCDR ... 10/4	I4*	I5*	I6*	I7*	I8*	QC*	QB*	GND	QA*	I9*	I1*	I2*	I3*	QD*	NC	VCC				
148	RX	1	PRIORITY-ENCDR ... 8/3	I4*	I5*	I6*	I7*	EI*	A2*	A1*	GND	A0*	I0*	I1*	I2*	I3*	GS*	EO*	VCC				
150	R	1	SELECTOR ... 1-OF-16	E7	E6	E5	E4	E3	E2	E1	E0	S*	W*	D	GND								
				C	B	A	E15	E14	E13	E12	E11	E10	E9	E8	VCC								
151	RXS	1	SELECTOR ... 1-OF-8	I3	I2	I1	I0	Y	W*	S*	GND	C	B	A	I7	I6	I5	I4	VCC				
153	RLXS	2	SELECTOR ... 1-OF-4 COM-SEL	1G*	B	1C3	1C2	1C1	1C0	1Y	GND	2Y	2C0	2C1	2C2	2C3	A	2G*	VCC				
154	RLX	1	DECODER ... 4/16	Q0*	Q1*	Q2*	Q3*	Q4*	Q5*	Q6*	Q7*	Q8*	Q9*	10*	GND								
				11*	12*	13*	14*	15*	G1*	G2*	D	C	B	A	VCC								
155	RX	2	DECODER ... FLEXIBLE (Y*)	1C	1G*	B	1Y3	1Y2	1Y1	1Y0	GND	2Y0	2Y1	2Y2	2Y3	A	2G*	2C*	VCC				
156	RX	2	DECODER ... FLEXIBLE OC (Y*)	1C	1G*	B	1Y3	1Y2	1Y1	1Y0	GND	2Y0	2Y1	2Y2	2Y3	A	2G*	2C*	VCC				
157	RLXS	4	SELECTOR ... 1-OF-2 COM-SEL	SEL	1A	1B	1Y	2A	2B	2Y	GND	3Y	3B	3A	4Y	4B	4A	G*	VCC				
158	RXS	4	SELECTOR ... 1-OF-2 COM-SEL INV	SEL	1A	1B	1Y	2A	2B	2Y	GND	3Y	3B	3A	4Y	4B	4A	G*	VCC				
159	R	1	DECODER ... 4/16 OC	Q0*	Q1*	Q2*	Q3*	Q4*	Q5*	Q6*	Q7*	Q8*	Q9*	10*	GND								
				11*	12*	13*	14*	15*	G1*	G2*	D	C	B	A	VCC								
160	RXS	1	COUNTER-10 ... SYNC DIRECT-CLR	CR*	CK	IA	IB	IC	ID	ENP	GND	LD*	ENT	QD	QC	QB	QA	RCO	VCC				
161	RXS	1	COUNTER-16 ... SYNC DIRECT-CLR	CR*	CK	IA	IB	IC	ID	ENP	GND	LD*	ENT	QD	QC	QB	QA	RCO	VCC				
162	RXS	1	COUNTER-10 ... SYNC SYNC-CLR	CR*	CK	IA	IB	IC	ID	ENP	GND	LD*	ENT	QD	QC	QB	QA	RCO	VCC				
163	RXS	1	COUNTER-16 ... SYNC SYNC-CLR	CR*	CK	IA	IB	IC	ID	ENP	GND	LD*	ENT	QD	QC	QB	QA	RCO	VCC				
164	RLX	1	SHREG8 ... SIPO CLR	SIA	SIB	QA	QB	QC	QD	GND	CK	CR*	QE	QF	QG	QH	VCC						
165	RLX	1	SHREG8 ... PISO COMPL-OUT	L*S	CK	IE	IF	IG	IH	QH*	GND	QH	SI	IA	IB	IC	ID	CKI	VCC				
166	RX	1	SHREG8 ... PISO CLR	SI	IA	IB	IC	ID	CKI	CK	GND	CR*	IE	IF	IG	QH	IH	L*S	VCC				
167	R	1	RATE-MULTIPLIER ... DECADE SYNC	NC	RIC	RID	ST9	QZ*	QY	EO*	GND	CK	SB*	EI*	UC*	CR	RIA	RIB	VCC				
168	XS	1	COUNTER-10 ... UP/DN SYNC	D*U	CK	IA	IB	IC	ID	EP*	GND	LD*	ET*	QD	QC	QB	QA	RC*	VCC				
169	XS	1	COUNTER-16 ... UP/DN SYNC	D*U	CK	IA	IB	IC	ID	EP*	GND	LD*	ET*	QD	QC	QB	QA	RC*	VCC				
170	RX	1	REG-FILE ... 4-BY-4 SEP-R/W OC	D2	D3	D4	RB	RA	Q4	Q3	GND	Q2	Q1	GR*	GW*	WB	WA	D1	VCC				
172	RS	1	REG-FILE ... 8-BY-2 IND-R/W TS	1W1	1W0	1W*	1DB	2DB	CK	1R2	1R1	1R0	1QB	2QB	GND								
				2QA	1QA	1R*	2R*	2/0	2/1	2/2	2W*	2DA	1DA	1W2	VCC								
173	RX	4	FF ... D-TYPE PET TS	CM*	CN*	1Q	2Q	3Q	4Q	CK	GND	G1*	G2*	4D	3D	2D	1D	CR	VCC				
174	RXS	6	FF ... D-TYPE PET COM-CNTRL	CR*	1Q	1D	2D	2Q	3D	3Q	GND	CK	4Q	4D	5Q	5D	6D	6Q	VCC				
175	RXS	4	FF ... D-TYPE PET COM-CLR CPL-OUT	CR*	1Q	1Q*	1D	2D	2Q*	2Q	GND	CK	3Q	3Q*	3D	4D	4Q*	4Q	VCC				
176	R	1	COUNTER-LATCH-10 ... (2×5) CLR	L*C	QC	IC	IA	QA	C2*	GND	C1*	QB	IB	ID	QD	CR*	VCC						
177	R	1	COUNTER-LATCH-16 ... (2×8) CLR	L*C	QC	IC	IA	QA	C2*	GND	C1*	QB	IB	ID	QD	CR*	VCC						
178	R	1	SHREG4 ... PIPO LOAD HOLD NET	IB	IA	SI	QA	CK*	QB	GND	QC	LD	QD	SHF	ID	IC	VCC						
179	R	1	SHREG4 ... PIPO LOAD HOLD NET CLR	CR*	IB	IA	SI	QA	CK*	QB	GND	QC	LD	QD	QD*	SHF	ID	IC	VCC				
180	R	1	PARITY-GEN-CHK ... 9-BIT	G	H	IE	IO	QE	QO	GND	A	B	C	D	E	F	VCC						
181	RXS	1	ALU ... 4-BIT 16-ARITH 16-LOGIC	B0*	A0*	S3	S2	S1	S0	CN	M	F0*	F1*	F2*	GND								
				F3*	EQU	P*	CN4	G*	B3*	A3*	B2*	A2*	B1*	A1*	VCC								
182	RXS	1	CARRY-GEN ... LOOK-AHEAD	G1*	P1*	G0*	P0*	G3*	P3*	QP*	GND	CNZ	QG*	CNY	CNX	CN	G2*	P2*	VCC				
183	XH	2	ADDER ... FULL CARRY-SAVE	1A	NC	1B	1CN	1C1	1SM	GND	2SM	NC	2C1	2CN	2B	2A	VCC						
184	R	1	CONVERTER ... BCD-TO-BINARY	Y1	Y2	Y3	Y4	Y5	Y6	Y7	GND	Y8	IA	IB	IC	ID	IE	G*	VCC				
185	R	1	CONVERTER ... BINARY-TO-BCD	Y1	Y2	Y3	Y4	Y5	Y6	Y7	GND	Y8	IA	IB	IC	ID	IE	G*	VCC				
186	R	1	PROM ... 64-BY-8 OC	NC	NC	ADA	ADB	ADC	CS1	CS2	ADD	ADE	ADF	GN1	NC								
				GN2	TO	DO8	DO7	DO6	DO5	DO4	DO3	DO2	DO1	GN2	VCC								
187	R	1	ROM ... 256-BY-4 OC	ADG	ADF	ADE	ADD	ADA	ADB	ADC	GND	DO4	DO3	DO2	DO1	S1*	S2*	ADH	VCC				
188	RS	1	PROM ... 32-BY-8 OC	DO1	DO2	DO3	DO4	DO5	DO6	DO7	GND	DO8	ADA	ADB	ADC	ADD	ADE	S*	VCC				
189	SX	1	RAM ... 16-BY-4 TS INV-OUT	ADA	S*	W*	DI1	Q1*	DI2	Q2*	GND	Q3*	DI3	Q4*	DI4	ADD	ADC	ADB	VCC				
190	RX	1	COUNTER-10 ... UP/DN SYNC	IB	QB	QA	G*	U*D	QC	QD	GND	ID	IC	LD*	MM	RC*	CK	IA	VCC				
191	RX	1	COUNTER-16 ... UP/DN SYNC	IB	QB	QA	G*	U*D	QC	QD	GND	ID	IC	LD*	MM	RC*	CK	IA	VCC				
192	RLX	1	COUNTER-10 ... UP/DN SYNC CLR	IB	QB	QA	DN	UP	QC	QD	GND	ID	IC	LD*	CY*	BW*	CR	IA	VCC				
193	RLX	1	COUNTER-16 ... UP/DN SYNC CLR	IB	QB	QA	DN	UP	QC	QD	GND	ID	IC	LD*	CY*	BW*	CR	IA	VCC				
194	RXS	1	SHREG4 ... PIPO L/R CLR	CR*	SRI	IA	IB	IC	ID	SLI	GND	S0	S1	CK	QD	QC	QB	QA	VCC				
195	RXS	1	SHREG4 ... PIPO JK CLR	CR*	J	K*	IA	IB	IC	ID	GND	L*S	CK	QD*	QD	QC	QB	QA	VCC				
196	RXS	1	COUNTER-10 ... (2×5) CLR	LD*	QC	IC	IA	QA	C2*	GND	C1*	QB	IB	ID	QD	CR*	VCC						
197	RXS	1	COUNTER-16 ... (2×8) CLR	LD*	QC	IC	IA	QA	C2*	GND	C1*	QB	IB	ID	QD	CR*	VCC						
198	R	1	SHREG8 ... PIPO L/R CLR	S0	SRI	A	QA	B	QB	G	QC	D	QD	CK	GND								
				CR*	QE	E	QF	F	QG	G	QH	H	SLI	S1	VCC								
199	R	1	SHREG8 ... PIPO L/R JK	K*	J	A	QA	B	QB	C	QC	D	QD	CKI	GND								
				CK	CR*	QE	E	QF	F	QG	G	QH	H	L*S	VCC								
200	XS	1	RAM ... 256-BY-1 TS	ADA	ADB	S1*	S2*	S3*	Q*	ADD	GND	ADE	ADF	ADG	W*	DI	ADH	ADC	VCC				
201	S	1	RAM ... 256-BY-1 TS	ADA	ADB	S1*	S2*	S3*	Q*	ADD	GND	ADE	ADF	ADG	W*	DI	ADH	ADC	VCC				
202	X	1	RAM ... 256-BY-1 TS POWER-DOWN	ADA	ADB	E1*	E2*	E3*	Q*	ADD	GND	ADE	ADF	ADG	W*	DI	ADH	ADC	VCC				
207	XS	1	RAM ... 256-BY-4 COM-I/O EDGE-W	ADG	ADF	ADE	ADD	ADA	ADB	ADC	GND	IO4	IO3	IO2	IO1	OE*	W	ADH	VCC				
208	XS	1	RAM ... 256-BY-4 TS EDGE-W	ADA	ADB	ADC	ADD	DI3	ADE	ADF	ADG	DI2	GND	DI1	DO1	DO2	DO3	DO4	OE*	W	ADH	DI4	VCC
214	XS	1	RAM ... 1024-BY-1 TS	S*	ADA	ADB	ADC	ADD	ADE	DO	GND	ADF	ADG	ADH	ADI	ADJ	W*	DI	VCC				
215	X	1	RAM ... 1024-BY-1 TS POWER-DOWN	S*	ADA	ADB	ADC	ADD	ADE	DO	GND	ADF	ADG	ADH	ADI	ADJ	W*	DI	VCC				
221	RX	2	ONESHOT ... ST T=0.7RC R=2K-40K(*)	1A*	1B	1CR	1Q*	2Q	2CP	2RC	GND	2A*	2B	2CR	2Q*	1Q	1CP	1RC	VCC				
222	X	1	FIFO ... 16-BY-4 TS READY-ENBL	OE	IRE	IR	LD*	D0	NC	D1	D2	D3	GND	CR*	Q3	Q2	Q1	NC	Q0	OR	ORE	UN	VCC
224	X	1	FIFO ... 16-BY-4 TS	OE	IR	LD*	D0	D1	D2	D3	GND	CR*	Q3	Q2	Q1	Q0	OR	UN	VCC				
225	S	1	FIFO ... 16-BY-5 ASYNC	CKA	IR	QCK	DI1	DI2	DI3	DI4	DI5	OE*	GND	DO5	DO4	DO3	DO2	DO1	ICK	OR	CR*	CKB	VCC
226	S	1	BUS-XCEIVER-LTCH ... 4-BIT TS (*)	GBA	S1	A1	A2	A3	A4	CBA	GND	CAB	B4	B3	B2	B1	S2	GAB	VCC				
227	X	1	FIFO ... 16-BY-4 OC READY-ENBL	OE	IRE	IR	LD*	D0	NC	D1	D2	D3	GND	CR*	Q3	Q2	Q1	NC	Q0	OR	ORE	UN	VCC
228	X	1	FIFO ... 16-BY-4 OC	OE	IR	LD*	D0	D1	D2	D3	GND	CR*	Q3	Q2	Q1	Q0	OR	UN	VCC				
240	XS	8	BUFFER ... TS 24,64MA ST INV	1G*	1A1	2Y4	1A2	2Y3	1A3	2Y2	1A4	2Y1	GND	2A1	1Y4	2A2	1Y3	2A3	1Y2	2A4	1Y1	2G*	VCC
241	XS	8	BUFFER ... TS 24,64MA ST	1G*	1A1	2Y4	1A2	2Y3	1A3	2Y2	1A4	2Y1	GND	2A1	1Y4	2A2	1Y3	2A3	1Y2	2A4	1Y1	2G	VCC
242	XS	4	BUS-XCEIVER ... INV TS ST	AB*	NC	1A	2A	3A	4A	GND	4B	3B	2B	1B	NC	BA	VCC						
243	XS	4	BUS-XCEIVER ... TS ST	AB*	NC	1A	2A	3A	4A	GND	4B	3B	2B	1B	NC	BA	VCC						
244	XS	8	BUFFER ... TS 24,64MA ST	1G*	1A1	2Y4	1A2	2Y3	1A3	2Y2	1A4	2Y1	GND	2A1	1Y4	2A2	1Y3	2A3	1Y2	2A4	1Y1	2G*	VCC

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INSTANT REFERENCE CARD

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74-	TYPE	# DESCRIPTION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
245	X	8 BUS-XCEIVER ... TS ST	DIR	A1	A2	A3	A4	A5	A6	A7	A8	GND	B8	B7	B6	B5	B4	B3	B2	B1	G*	VCC
246	R	1 DECODER ... 4/7SEG OC 30V	B	C	LT*	BO*	BI*	D	A	GND	QE*	QD*	QC*	QB*	QA*	QG*	QF*	VCC				
247	RX	1 DECODER ... 4/7SEG OC 15V	B	C	LT*	BO*	BI*	D	A	GND	QE*	QD*	QC*	QB*	QA*	QG*	QF*	VCC				
248	RX	1 DECODER ... 4/7SEG PU	B	C	LT*	BO*	BI*	D	A	GND	QE	QD	QC	QB	QA	QG	QF	VCC				
249	RX	1 DECODER ... 4/7SEG OC	B	C	LT*	BO*	BI*	D	A	GND	QE	QD	QC	QB	QA	QG	QF	VCC				
251	RXS	1 SELECTOR ... 1-OF-8 TS	D3	D2	D1	D0	Y	W*	S*	GND	C	B	A	D7	D6	D5	D4	VCC				
253	XS	2 SELECTOR ... 1-OF-4 TS COM-SEL	1G*	B	1C3	1C2	1C1	1C0	1Y	GND	2Y	2C0	2C1	2C2	2C3	A	2G*	VCC				
256	X	2 ADDRESSABLE-LATCH ... 4-BIT	A0	A1	DA	Q0A	Q1A	Q2A	Q3A	GND	Q0B	Q1B	Q2B	Q3B	DB	E*	CR*	VCC				
257	XS	4 SELECTOR ... 1-OF-2 TS COM-SEL	A*B	1A	1B	1Y	2A	2B	2Y	GND	3Y	3B	3A	4Y	4B	4A	G*	VCC				
258	XS	4 SELECTOR ... 1-OF-2 TS COM-SEL	A*B	1A	1B	1Y*	2A	2B	2Y*	GND	3Y*	3B	3A	4Y*	4B	4A	G*	VCC				
259	RX	1 ADDRESSABLE-LATCH ... 8-BIT	A	B	C	Q0	Q1	Q2	Q3	GND	Q4	Q5	Q6	Q7	DI	G*	CR*	VCC				
260	XS	2 NOR5 ...	1A	1B	1C	2A	1Y	2Y	GND	2B	2C	2D	2E	1D	1E	VCC						
261	X	1 MULTIPLIER ... 2-BIT BY 4-BIT	B3	B4	G	M2	Q4*	Q3	Q2	GND	Q1	Q0	M0	M1	B0	B1	B2	VCC				
265	R	4 COMPLEMENTRY-OUTPUT-ELEMENTS	1A	1W	1Y	2A	2B	2W	2Y	GND	3Y	3W	3A	3B	4Y	4W	4A	VCC				
266	X	4 XNOR2 ... OC	1A	1B	1Y	2Y	2A	2B	GND	3A	3B	3Y	4Y	4A	4B	VCC						
270	S	1 ROM ... 512-BY-4 OC	ADG	ADF	ADE	ADD	ADA	ADB	ADC	GND	D04	D03	D02	D01	S*	ADI	ADH	VCC				
271	S	1 ROM ... 256-BY-8 OC	ADA	ADB	ADC	ADD	ADE	D01	D02	D03	D04	GND	D05	D06	D07	D08	S1*	S2*	ADF	ADG	ADH	VCC
273	RXS	8 FF ... D-TYPE PET COM-CLK COM-CLR	CR*	1Q	1D	2D	2Q	3Q	3D	4D	4Q	GND	CK	5Q	5D	6D	6Q	7Q	7D	8D	8Q	VCC
274	S	1 MULTIPLIER ... 4-BIT BY 4-BIT TS	A0	A1	A2	A3	B0	AB0	AB1	AB2	AB3	GND	AB4	AB5	AB6	AB7	G1*	G2*	B1	B2	B3	VCC
275	XS	1 WALLACE-TREES ... 7-BIT SLICE TS	2N	2N	2N	2N	C2N	C2N	2N	GND	2N0	CN1	2N1	2N2	G*	2N	2N	VCC				
276	R	4 FF ... JK NET COM-CLR-PR (CK*)	CR*	1J	1CK	1K*	1Q	2Q	2K*	2CK	2J	GND	PR*	3J	3CK	3K*	3Q	4Q	4K*	4CK	4J	VCC
278	R	1 PRIORITY-REGISTER ... 4-BIT	G	D3	D4	P0	P1	Y4	GND	Y3	Y2	Y1	NC	D1	D2	VCC						
279	RX	4 SR-LATCH ... (INPUTS ACTIVE LOW)	1R	1S1	1S2	1Q	2R	2S	2Q	GND	3Q	3R	3S1	3S2	4Q	4R	4S	VCC				
280	XS	1 PARITY-GEN-CHK ... 9-BIT	G	H	NC	I	EVN	ODD	GND	A	B	C	D	E	F	VCC						
281	S	1 ALU-SHIFT4 ...	A1	A2	RS1	RS0	RC	LR	A3	CN	G*	C4	P*	GND								
			F3	F2	F1	F0	M	AS2	AS1	AS0	RL	CK	A0	VCC								
283	RXS	1 ADDER ... 4-BIT FULL	SM2	B2	A2	SM1	A1	B1	C0	GND	C4	SM4	B4	A4	SM3	A3	B3	VCC				
284	R	1 MULTIPLIER ... 4-BIT BY 4-BIT	2C	2B	2A	1D	1A	1B	1C	GND	Y7	Y6	Y5	Y4	GB*	GA*	2D	VCC				
285	R	1 MULTIPLIER ... 4-BIT BY 4-BIT	2C	2B	2A	1D	1A	1B	1C	GND	Y3	Y2	Y1	Y0	GB*	GA*	2D	VCC				
287	S	1 PROM ... 256-BY-4 TS	ADG	ADF	ADE	ADD	ADA	ADB	ADC	GND	D04	D03	D02	D01	S1*	S2*	ADH	VCC				
288	S	1 PROM ... 32-BY-8 TS	D01	D02	D03	D04	D05	D06	D07	GND	D08	ADA	ADB	ADC	ADD	ADE	S*	VCC				
289	SX	1 RAM ... 16-BY-4 OC	ADA	S*	W*	I1	Q1*	I2	Q2*	GND	Q3*	I3	Q4*	I4	ADD	ADC	ADB	VCC				
290	RX	1 COUNTER-10 ... (2×5) CORNER-POWER	R91	NC	R92	QC	QB	NC	GND	QD	QA	IA*	IB*	R01	R02	VCC						
292	X	1 FREQ-DIVIDER ... 31-STAGE PET	B	E	TP1	CK1	CK2	TP2	Q	GND	NC	A	CR*	NC	TP3	D	C	VCC				
293	RX	1 COUNTER-16 ... (2×8) CORNER-POWER	NC	NC	NC	QC	QB	NC	GND	QD	QA	IA*	IB*	R01	R02	VCC						
294	X	1 FREQ-DIVIDER ... 15-STAGE PET	B	A	TP	CK1	CK2	NC	Q	GND	NC	NC	CR*	NC	NC	D	C	VCC				
295	X	1 SHREG4 ... PIPO L/R TS	SI	IA	IB	IC	ID	S*L	GND	G	CK*	QD	QC	QB	QA	VCC						
298	RX	4 SELECTOR-LATCH ... 1-OF-2	B2	A2	A1	B1	C2	D2	D1	GND	C1	1*2	CK*	QD	QC	QB	QA	VCC				
299	XS	1 SHREG8 ... PIPO BUS-I/O TS L/R CLR	S0	G1*	G2*	GOG	EOE	COC	AOA	QA	CR*	GND	SIR	CK	BOB	DOD	FOF	HOH	QH	SIL	S1	VCC
300	XS	1 RAM ... 256-BY-1 OC	ADA	ADB	S1*	S2*	S3*	DO*	ADD	GND	ADE	ADF	ADG	W*	DI	ADH	ADC	VCC				
301	S	1 RAM ... 256-BY-1 OC	ADA	ADB	S1*	S2*	S3*	DO*	ADD	GND	ADE	ADF	ADG	W*	DI	ADH	ADC	VCC				
302	X	1 RAM ... 256-BY-1 OC	ADA	ADB	E1*	E2*	E3*	DO*	ADD	GND	ADE	ADF	ADG	W*	DI	ADH	ADC	VCC				
314	XS	1 RAM ... 1024-BY-1 OC	S*	ADA	ADB	ADC	ADD	ADE	DO	GND	ADF	ADG	ADH	ADI	ADJ	W*	DI	VCC				
315	X	1 RAM ... 1024-BY-1 OC POWER-DOWN	E*	ADA	ADB	ADC	ADD	ADE	DO	GND	ADF	ADG	ADH	ADI	ADJ	W*	DI	VCC				
320	X	1 OSCILLATOR-XTAL ... 1-20MHZ	TK1	TK2	GN1	FFQ	FFD	NC	F	GN2	FP*	FP	VCP	F*	NC	XT1	XT2	VCC				
321	X	1 OSCILLATOR-XTAL ... 1-20MHZ DIVIDE	TK1	TK2	GN1	FFQ	FFD	F/4	F	GN2	FP*	FP	VCP	F*	F/2	XT1	XT2	VCC				
322	X	1 SHREG8 ... PIPO SIGN-EXTEND CLR TS	G*	P*S	D0	AQA	CQC	EQE	GQG	OE*	CR*	GND	CK	QHP	HQH	FQF	DQD	BQB	D1	SE*	DS	VCC
323	X	1 SHREG8 ... PIPO BUS-I/O TS L/R CLR	S0	G1*	G2*	GOG	EOE	COC	AOA	QA	CR*	GND	SIR	CK	BOB	DOD	FOF	HOH	QH	SIL	S1	VCC
340	S	8 BUFFER ... TS INV 64MA	1G*	1A1	2Y4	1A2	2Y3	1A3	2Y2	1A4	2Y1	GND	2A1	1Y4	2A2	1Y3	2A3	1Y2	2A4	1Y1	2G*	VCC
341	S	8 BUFFER ... TS 64MA	1G*	1A1	2Y4	1A2	2Y3	1A3	2Y2	1A4	2Y1	GND	2A1	1Y4	2A2	1Y3	2A3	1Y2	2A4	1Y1	2G	VCC
344	S	8 BUFFER ... TS 64MA	1G*	1A1	2Y4	1A2	2Y3	1A3	2Y2	1A4	2Y1	GND	2A1	1Y4	2A2	1Y3	2A3	1Y2	2A4	1Y1	2G*	VCC
347	X	1 DECODER ... 4/7SEG 24MA 7V OC	B	C	LT*	BO*	BI*	D	A	GND	QE*	QD*	QC*	QB*	QA*	QG*	QF*	VCC				
348	X	1 PRIORITY-ENCDR ... 8/3 TS	I4*	I5*	I6*	I7*	EI*	A2*	A1*	GND	A0*	I0*	I1*	I2*	I3*	GS*	EO*	VCC				
350	S	1 SHIFTER ... 4-BIT TS 0,1,2,3-POS	I-3	I-2	I-1	I0	I1	I2	I3	GND	S1	S0	Y3	Y2	OE*	Y1	Y0	VCC				
351	R	2 SELECTOR ... 1-OF-8 TS COM-INP	1Y*	G*	A	B	C	1D0	1D1	1D2	1D3	GND	D7	D6	D5	D4	2D3	2D2	2D1	2D0	2Y*	VCC
352	X	2 SELECTOR ... 1-OF-4 INV-OUT	1G*	SB	1C3	1C2	1C1	1C0	1Y*	GND	2Y*	2C0	2C1	2C2	2C3	SA	2G*	VCC				
353	X	2 SELECTOR ... 1-OF-4 INV-OUT TS	1G*	SB	1C3	1C2	1C1	1C0	1Y*	GND	2Y*	2C0	2C1	2C2	2C3	SA	2G*	VCC				
354	X	1 SELECTOR-LATCH ... 1-OF-8 LLS TS	D7	D6	D5	D4	D3	D2	D1	D0	CK*	GND	SC*	S2	S1	S0	G1*	G2*	G3	W*	Y	VCC
355	X	1 SELECTOR-LATCH ... 1-OF-8 LLS OC	D7	D6	D5	D4	D3	D2	D1	D0	CK*	GND	SC*	S2	S1	S0	G1*	G2*	G3	W*	Y	VCC
356	X	1 SELECTOR-REG ... 1-OF-8 PET TS	D7	D6	D5	D4	D3	D2	D1	D0	CK	GND	SC*	S2	S1	S0	G1*	G2*	G3	W*	Y	VCC
357	X	1 SELECTOR-REG ... 1-OF-8 PET OC	D7	D6	D5	D4	D3	D2	D1	D0	CK	GND	SC*	S2	S1	S0	G1*	G2*	G3	W*	Y	VCC
362	X	1 CLOCK ... 4-PHASE FOR-TMS9900-MPU	TK1	TK2	GN1	FFQ	FFD	P4*	P3*	P3	P4	GN2	P2	P1	VDD	P1*	P2*	OO	OI	XT1	XT2	VCC
363	X	1 LATCH8 ... HLS TS COM-CNTRL	OC*	1Q	1D	2D	2Q	3Q	3D	4D	4Q	GND	G	5Q	5D	6D	6Q	7Q	7D	8D	8Q	VCC
364	X	8 FF ... D-TYPE PET TS COM-CNTRL	OC*	1Q	1D	2D	2Q	3Q	3D	4D	4Q	GND	CK	5Q	5D	6D	6Q	7Q	7D	8D	8Q	VCC
365	RX	6 BUS-DRIVER ... TS COM-ENBL	G1*	1A	1Y	2A	2Y	3A	3Y	GND	4Y	4A	5Y	5A	6Y	6A	G2*	VCC				
366	RX	6 BUS-DRIVER ... TS COM-ENBL INV-OUT	G1*	1A	1Y	2A	2Y	3A	3Y	GND	4Y	4A	5Y	5A	6Y	6A	G2*	VCC				
367	RX	6 BUS-DRIVER ... TS 2.4-ENBL	G1*	1A	1Y	2A	2Y	3A	3Y	GND	4Y	4A	5Y	5A	6Y	6A	G2*	VCC				
368	RX	6 BUS-DRIVER ... TS 2.4-ENBL INV-OUT	G1*	1A	1Y	2A	2Y	3A	3Y	GND	4Y	4A	5Y	5A	6Y	6A	G2*	VCC				
370	S	1 ROM ... 512-BY-4 TS	ADG	ADF	ADE	ADD	ADA	ADB	ADC	GND	D04	D03	D02	D01	S*	ADI	ADH	VCC				
371	S	1 ROM ... 256-BY-8 TS	ADA	ADB	ADC	ADD	ADE	D01	D02	D03	D04	GND	D05	D06	D07	D08	S1*	S2*	ADF	ADG	ADH	VCC
373	XS	1 LATCH8 ... HLS TS COM-CNTRL	OC*	1Q	1D	2D	2Q	3Q	3D	4D	4Q	GND	G	5Q	5D	6D	6Q	7Q	7D	8D	8Q	VCC
374	XS	8 FF ... D-TYPE PET TS COM-CNTRL	OC*	1Q	1D	2D	2Q	3Q	3D	4D	4Q	GND	CK	5Q	5D	6D	6Q	7Q	7D	8D	8Q	VCC
375	X	1 LATCH4 ... HLS CORNER-POWER	1D	1Q*	1Q	E12	2Q	2Q*	2D	GND	3D	3Q*	3Q	E34	4Q	4Q*	4D	VCC				
376	R	4 FF ... JK PET COM-CLR COM-CLK	CR*	1J	1K*	1Q	2Q	2K*	2J	GND	CK	3J	3K*	3Q	4Q	4K*	4J	VCC				
377	X	8 FF ... D-TYPE PET TS COM-CTRL	G*	1Q	1D	2D	2Q	3Q	3D	4D	4Q	GND	CK	5Q	5D	6D	6Q	7Q	7D	8D	8Q	VCC
378	X	6 FF ... D-TYPE PET COM-CTRL	G*	1Q	1D	2D	2Q	3D	3Q	GND	CK	4Q	4D	5Q	5D	6D	6Q	VCC				
379	X	4 FF ... D-TYPE PET COM-CTRL	G*	1Q	1Q*	1D	2D	2Q*	2Q	GND	CK	3Q	3Q*	3D	4D	4Q*	4Q	VCC				
381	XS	1 ALU ... 4-BIT 8-FUNCTION	A1	B1	A0	B0	S0	S1	S2	F0	F1	GND	F2	F3	G*	P*	CN	B3	A3	B2	A2	VCC
382	X	1 ALU ... 4-BIT 8-FUNCTION RIP-CY OV	A1	B1	A0	B0	S0	S1	S2	F0	F1	GND	F2	F3	OVR	CN4	CN	B3	A3	B2	A2	VCC
384	X	1 MULTIPLIER ... 8-BY-1-BIT 2-COMP	CR*	X3	X2	X1	X0	PRD	CK	GND	MOD	K	X7	X6	X5	X4	Y	VCC				
385	X	4 ADDER-SUB ... SERIAL	CK	1S	1SA	1B	1A	2A	2B	2SA	2S	GND	CR*	3S	3SA	3B	3A	4A	4B	4SA	4S	VCC
386	X	4 XOR2 ...	1A	1B	1Y	2Y	2A	2B	GND	3A	3B	3Y	4Y	4A	4B	VCC						
387	S	1 PROM ... 256-BY-4 OC	ADG	ADF	ADE	ADD	ADA	ADB	ADC	GND	D04	D03	D02	D01	S1*	S2*	ADH	VCC				
390	RX	2 COUNTER-10 ... (2×5) CLR	1A*	1CR	1QA	1B*	1QB	1QC	1QD	GND	2QD	2QC	2QB	2B*	2QA	2CR	2A*	VCC				
393	RX	2 COUNTER-16 ... CLR	1A*	1CR	1QA	1QB	1QC	1QD	GND	2QD	2QC	2QB	2QA	2CR	2A*	VCC						
395	X	1 SHREG4 ... PIPO TS CLR	CR*	SI	IA	IB	IC	ID	S*L	GND	OC*	CK*	CQD	QD	QC	QB	QA	VCC				
396	X	1 REGISTER ... 4-IN 8-OUT	2Q1	1Q1	D1	2Q2	1Q2	D2	CK	GND	D3	1Q3	2Q3	D4	1Q4	2Q4	G*	VCC				
398	X	4 SELECTOR-LATCH ... 1-OF-2 PET	1*2	QA	QA*	A1	A2	B2	B1	QB*	QB	GND	CK	QC	QC*	C1	C2	D2	D1	QD*	QD	VCC
399	X	4 SELECTOR-LATCH ... 1-OF-2 PET	1*2	QA	A1	A2	B2	B1	QB	GND	CK	QC	C1	C2	D2	D1	QD	VCC				
412	S	1 LATCH8 MULTI-MODE TS CLR (8212)	S1*	M*	DI1	D01	DI2	D02	DI3	D03	DI4	D04	STB	GND								
			S2	CR*	D05	DI5	D06	DI6	D07	DI7	D08	DI8	IT*	VCC								
422	X	1 ONESHOT ... RT CLR R=5K 260K	A1*	A2*	B1	B2	CR*	Q*	GND	Q	RIN	NC	CAP	NC	RC	VCC						
423	X	2 ONESHOT ... RT CLR R=5K 260K (CR*)	1A*	1B	1CR	1Q*	2Q	2CP	2RC	GND	2A*	2B	2CR	2Q*	1Q	1CP	1RC	VCC				
424	X	1 CLOCK ... 2-PHASE FOR 8080A-MPU	RO	RI*	RDI	RDO	SI	PT*	SO*	GND	VDD	P2*	P1	OSC	TNK	X2	X1	VCC				
425	R	4 BUFFER ... TS LOW-ENBL	1C*	1A	1Y	2C*	2A	2Y	GND	3Y	3A	3C*	4Y	4A	4C*	VCC						
426	R	4 BUFFER ... TS HIGH-ENBL	1C	1A	1Y	2C	2A	2Y	GND	3Y	3A	3C	4Y	4A	4C	VCC						
428	S	1 SYSTEM-CONT ... FOR-8080A (8228)(*)	STS	HDA	WR	DBI	DB4	D4	DB7	D7	DB3	D3	DB2	D2	DB0	GND						
			D0	DB1	D1	DB5	D5	DB6	D6	BEN	ITA	MR	IOR	MW	IOW	VCC						
436	S	1 LINE-DRIVER MOS-MEMORY DMP-RES	G1*	1A	1Y	2A	2Y	3A	3Y	GND	4Y	4A	5Y	5A	6Y	6A	G2*	VCC				
437	S	1 LINE-DRIVER ... MOS-MEMORY	G1*	1A	1Y	2A	2Y	3A	3Y	GND	4Y	4A	5Y	5A	6Y	6A	G2*	VCC				
438	S	1 SYSTEM-CONT ... FOR-8080A (8238)(*)	STS	HDA	WR	DBI	DB4	D4	DB7	D7	DB3	D3	DB2	D2	DB0	GND						
			D0	DB1	D1	DB5	D5	DB6	D6	BEN	ITA	MR	IOR	MW	IOW	VCC						
440	X	4 BUS-XCEIVER ... 3-WAY OC	CS*	B1	C1	C2	B2	B3	C3	C4	B4	GND	S0	S1	A4	A3	A2	A1	GA*	GB*	GC*	VCC
441	X	4 BUS-XCEIVER ... 3-WAY OC INV	CS*	B1	C1	C2	B2	B3	C3	C4	B4	GND	S0	S1	A4	A3	A2	A1	GA*	GB*	GC*	VCC
442	X	4 BUS-XCEIVER ... 3-WAY TS	CS*	B1	C1	C2	B2	B3	C3	C4	B4	GND	S0	S1	A4	A3	A2	A1	GA*	GB*	GC*	VCC
443	X	4 BUS-XCEIVER ... 3-WAY INV TS	CS*	B1	C1	C2	B2	B3	C3	C4	B4	GND	S0	S1	A4	A3	A2	A1	GA*	GB*	GC*	VCC
444	X	4 BUS-XCEIVER ... 3-WAY TS TRUE/INV	CS*	B1	C1	C2	B2	B3	C3	C4	B4	GND	S0	S1	A4	A3	A2	A1	GA*	GB*	GC*	VCC
445	X	1 DECODER ... 4/10 80MA 7V OC	Q0*	Q1*	Q2*	Q3*	Q4*	Q5*	Q6*	GND	Q7*	Q8*	Q9*	D	C	B	A	VCC				
446	X	4 BUS-XCEIVER ... INV	BA*	A1	DR2	A2	A3	DR3	A4	GND	B4	DR4	B3	B2	DR1	B1	AB*	VCC				
447	X	1 DECODER ... 4/7SEG 24MA 7V OC	B	C	LT*	BO*	BI*	D	A	GND	QE*	QD*	QC*	QB*	QA*	QG*	QF*	VCC				
448	X	4 BUS-XCEIVER ... 3-WAY OC TRUE/INV	CS*	B1	C1	C2	B2	B3	C3	C4	B4	GND	S0	S1	A4	A3	A2	A1	GA*	GB*	GC*	VCC
449	X	4 BUS-XCEIVER ...	BA*	A1	DR2	A2	A3	DR3	A4	GND	B4	DR4	B3	B2	DR1	B1	AB*	VCC				

74-	TYPE	# DESCRIPTION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
465	X	8 BUFFER ... TS 24 MA	G1*	A1	Y1	A2	Y2	A3	Y3	A4	Y4	GND	Y5	A5	Y6	A6	Y7	A7	Y8	A8	G2*	VCC
466	X	8 BUFFER ... TS 24 MA INV	G1*	A1	Y1	A2	Y2	A3	Y3	A4	Y4	GND	Y5	A5	Y6	A6	Y7	A7	Y8	A8	G2*	VCC
467	X	8 BUFFER ... TS 24 MA ENBL-4	1G*	1A1	1Y1	1A2	1Y2	1A3	1Y3	1A4	1Y4	GND	2Y1	2A1	2Y2	2A2	2Y3	2A3	2Y4	2A4	2G*	VCC
468	X	8 BUFFER ... TS 24 MA INV ENBL-4	1G*	1A1	1Y1	1A2	1Y2	1A3	1Y3	1A4	1Y4	GND	2Y1	2A1	2Y2	2A2	2Y3	2A3	2Y4	2A4	2G*	VCC
470	S	1 PROM ... 256-BY-8 OC	ADA	ADB	ADC	ADD	ADE	D01	D02	D03	D04	GND	D05	D06	D07	D08	S1*	S2*	ADF	ADG	ADH	VCC
471	S	1 PROM ... 256-BY-8 TS	ADA	ADB	ADC	ADD	ADE	D01	D02	D03	D04	GND	D05	D06	D07	D08	S1*	S2*	ADF	ADG	ADH	VCC
472	S	1 PROM ... 512-BY-8 TS	ADA	ADB	ADC	ADD	ADE	D01	D02	D03	D04	GND	D05	D06	D07	D08	S*	ADF	ADG	ADH	ADI	VCC
473	S	1 PROM ... 512-BY-8 OC	ADA	ADB	ADC	ADD	ADE	D01	D02	D03	D04	GND	D05	D06	D07	D08	S*	ADF	ADG	ADH	ADI	VCC
474	S	1 PROM ... 512-BY-8 TS	ADH	ADG	ADF	ADE	ADD	ADC	ADB	ADA	D01	D02	D03	GND								
			D04	D05	D06	D07	D08	S4	S3	S2*	S1*	NC	ADI	VCC								
475	S	1 PROM ... 512-BY-8 OC	ADH	ADG	ADF	ADE	ADD	ADC	ADB	ADA	D01	D02	D03	GND								
			D04	D05	D06	D07	D08	S4	S3	S2*	S1*	NC	ADI	VCC								
490	RX	2 COUNTER-10 ... CLR SET9 NET (CK*)	1CK	1CR	1QA	1S9	1QB	1QC	1QD	GND	2QD	2QC	2QB	2S9	2QA	2CR	2CK	VCC				
502	X	1 SUCC-APPROX-REG ... 8-BIT	QD	CC*	Q0	Q1	Q2	Q3	D	GND	CP	S*	Q4	Q5	Q6	Q7	Q7*	VCC				
503	X	1 SUCC-APPROX-REG ... 8-BIT EXP	E*	CC*	Q0	Q1	Q2	Q3	D	GND	CP	S*	Q4	Q5	Q6	Q7	Q7*	VCC				
504	X	1 SUCC-APPROX-REG ... 12-BIT EXP	E*	QD	CC*	Q0	Q1	Q2	Q3	Q4	Q5	NC	D	GND								
			CP	S*	NC	Q6	Q7	Q8	Q9	Q10	Q11	NC	11*	VCC								
533	X	1 LATCH8 ... TS HLS INV	OE*	Q0*	D0	D1	Q1*	Q2*	D2	D3	Q3*	GND	LE	Q4*	D4	D5	Q5*	Q6*	D6	D7	Q7*	VCC
534	XS	8 FF ... D-TYPE PET TS	OE*	Q0*	D0	D1	Q1*	Q2*	D2	D3	Q3*	GND	CK	Q4*	D4	D5	Q5*	Q6*	D6	D7	Q7*	VCC
540	X	8 BUFFER ... TS 24MA INV	G1*	A1	A2	A3	A4	A5	A6	A7	A8	GND	Y8	Y7	Y6	Y5	Y4	Y3	Y2	Y1	G2*	VCC
541	X	8 BUFFER ... TS 24MA	G1*	A1	A2	A3	A4	A5	A6	A7	A8	GND	Y8	Y7	Y6	Y5	Y4	Y3	Y2	Y1	G2*	VCC
563	X	1 LATCH8 ... TS HLS INV	OE*	D0	D1	D2	D3	D4	D5	D6	D7	GND	LE	Q7*	Q6*	Q5*	Q4*	Q3*	Q2*	Q1*	Q0*	VCC
564	X	8 FF ... TS PET INV	OE*	D0	D1	D2	D3	D4	D5	D6	D7	GND	CP	Q7*	Q6*	Q5*	Q4*	Q3*	Q2*	Q1*	Q0*	VCC
568	X	1 COUNTER-10 ... UP/DN SYNC TS	D*U	CK	D0	D1	D2	D3	CP*	MR*	SR*	GND	PE*	CT*	Q3	Q2	Q1	Q0	OE*	GC	TC*	VCC
569	X	1 COUNTER-16 ... UP/DN SYNC TS	D*U	CK	D0	D1	D2	D3	CP*	MR*	SR*	GND	PE*	CT*	Q3	Q2	Q1	Q0	OE*	GC	TC*	VCC
573	X	1 LATCH8 ... TS HLS	OE*	D0	D1	D2	D3	D4	D5	D6	D7	GND	LE	Q7	Q6	Q5	Q4	Q3	Q2	Q1	Q0	VCC
574	X	8 FF ... TS PET	OE*	D0	D1	D2	D3	D4	D5	D6	D7	GND	CP	Q7	Q6	Q5	Q4	Q3	Q2	Q1	Q0	VCC
590	X	1 COUNTER-LATCH ... 8-BIT CLR-CNT TS	QB	QC	QD	QE	QF	QG	QH	GND	RC*	CR*	CK	EC*	RCK	G*	QA	VCC				
591	X	1 COUNTER-LATCH ... 8-BIT CLR-CNT OC	QB	QC	QD	QE	QF	QG	QH	GND	RC*	CR*	CK	EC*	RCK	G*	QA	VCC				
592	X	1 COUNTER-IREG ... 8-BIT ONE-OUTPUT	IB	IC	ID	IE	IF	IG	IH	GND	RC*	CR*	CK	EC*	RCK	LD*	IA	VCC				
593	X	1 COUNTER-IREG ... 8-BIT TS-I/O	AQA	BQB	CQC	DQD	EQE	FQF	GQG	HQH	CL*	GND	RC*	CR*	CK	EC*	EC	RCK	RE*	G*	G	VCC
595	X	1 SHREG-LATCH8 ... SIPO TS CLR-SR	QB	QC	QD	QE	QF	QG	QH	GND	QHP	CR*	SCK	RCK	G*	SER	QA	VCC				
596	X	1 SHREG-LATCH8 ... SIPO OC CLR-SR	QB	QC	QD	QE	QF	QG	QH	GND	QHP	CR*	SCK	RCK	G*	SER	QA	VCC				
597	X	1 SHREG-IREG8 ... PISO CLR-SR	IB	IC	ID	IE	IF	IG	IH	GND	QHP	CR*	SCK	RCK	SL*	SER	IA	VCC				
598	X	1 SHREG-IREG8 ... PIPO TS-I/O CLR-SR	AQA	BQB	CQC	DQD	EQE	FQF	GQG	HQH	SL*	GND	QHP	CR*	SCK	SE*	RCK	G*	SI0	SI1	DS	VCC
620	X	8 BUS-XCEIVER ... INV TS	AB	A1	A2	A3	A4	A5	A6	A7	A8	GND	B8	B7	B6	B5	B4	B3	B2	B1	BA*	VCC
621	X	8 BUS-XCEIVER ... OC	AB	A1	A2	A3	A4	A5	A6	A7	A8	GND	B8	B7	B6	B5	B4	B3	B2	B1	BA*	VCC
622	X	8 BUS-XCEIVER ... INV OC	AB	A1	A2	A3	A4	A5	A6	A7	A8	GND	B8	B7	B6	B5	B4	B3	B2	B1	BA*	VCC
623	X	8 BUS-XCEIVER ... TS	AB	A1	A2	A3	A4	A5	A6	A7	A8	GND	B8	B7	B6	B5	B4	B3	B2	B1	BA*	VCC
638	X	8 BUS-XCEIVER ... A-OC B-TS INV	DIR	A1	A2	A3	A4	A5	A6	A7	A8	GND	B8	B7	B6	B5	B4	B3	B2	B1	G*	VCC
639	X	8 BUS-XCEIVER ... A-OC B-TS	DIR	A1	A2	A3	A4	A5	A6	A7	A8	GND	B8	B7	B6	B5	B4	B3	B2	B1	G*	VCC
640	X	8 BUS-XCEIVER ... TS INV	DIR	A1	A2	A3	A4	A5	A6	A7	A8	GND	B8	B7	B6	B5	B4	B3	B2	B1	G*	VCC
641	X	8 BUS-XCEIVER ... OC	DIR	A1	A2	A3	A4	A5	A6	A7	A8	GND	B8	B7	B6	B5	B4	B3	B2	B1	G*	VCC
642	X	8 BUS-XCEIVER ... OC INV	DIR	A1	A2	A3	A4	A5	A6	A7	A8	GND	B8	B7	B6	B5	B4	B3	B2	B1	G*	VCC
643	X	8 BUS-XCEIVER ... TS TRUE/INV	DIR	A1	A2	A3	A4	A5	A6	A7	A8	GND	B8	B7	B6	B5	B4	B3	B2	B1	G*	VCC
644	X	8 BUS-XCEIVER ... OC TRUE/INV	DIR	A1	A2	A3	A4	A5	A6	A7	A8	GND	B8	B7	B6	B5	B4	B3	B2	B1	G*	VCC
645	X	8 BUS-XCEIVER ... TS	DIR	A1	A2	A3	A4	A5	A6	A7	A8	GND	B8	B7	B6	B5	B4	B3	B2	B1	G*	VCC
646	X	8 BUS-XCEIVER-REG ... TS	CAB	SAB	DIR	A1	A2	A3	A4	A5	A6	A7	A8	GND								
			B8	B7	B6	B5	B4	B3	B2	B1	G*	SBA	CBA	VCC								
647	X	8 BUS-XCEIVER-REG ... OC	CAB	SAB	DIR	A1	A2	A3	A4	A5	A6	A7	A8	GND								
			B8	B7	B6	B5	B4	B3	B2	B1	G*	SBA	CBA	VCC								
648	X	8 BUS-XCEIVER-REG ... TS INV	CAB	SAB	DIR	A1	A2	A3	A4	A5	A6	A7	A8	GND								
			B8	B7	B6	B5	B4	B3	B2	B1	G*	SBA	CBA	VCC								
649	X	8 BUS-XCEIVER-REG ... OC INV	CAB	SAB	DIR	A1	A2	A3	A4	A5	A6	A7	A8	GND								
			B8	B7	B6	B5	B4	B3	B2	B1	G*	SBA	CBA	VCC								
651	X	8 BUS-XCEIVER-REG ... TS INV	CAB	SAB	GAB	A1	A2	A3	A4	A5	A6	A7	A8	GND								
			B8	B7	B6	B5	B4	B3	B2	B1	BA*	SBA	CBA	VCC								
652	X	8 BUS-XCEIVER-REG ... TS	CAB	SAB	GAB	A1	A2	A3	A4	A5	A6	A7	A8	GND								
			B8	B7	B6	B5	B4	B3	B2	B1	BA*	SBA	CBA	VCC								
668	X	1 COUNTER-10 ... UP/DN SYNC	D*U	CK	A	B	C	D	P*	GND	LD*	T*	QD	QC	QB	QA	RC*	VCC				
669	X	1 COUNTER-16 ... UP/DN SYNC	D*U	CK	A	B	C	D	P*	GND	LD*	T*	QD	QC	QB	QA	RC*	VCC				
670	X	1 REG-FILE ... 4-BY-4 SIM-R/W EXP TS	D2	D3	D4	RB	RA	Q4	Q3	GND	Q2	Q1	GR*	GW*	WB	WA	D1	VCC				
671	X	1 SHREG-LATCH4 ... PIPO L/R TS CLR	SIR	SCK	A	B	C	D	SIL	CR*	RCK	GND	S*R	G*	S1	S0	QD	QC	QB	QA	CAS	VCC
672	X	1 SHREG-LATCH4 ... PIPO L/R TS S-CLR	SIR	SCK	A	B	C	D	SIL	CR*	RCK	GND	S*R	G*	S1	S0	QD	QC	QB	QA	CAS	VCC
673	X	1 SHREG-REG-16 ... SISO PO-REG	CS*	SCK	W*R	SC*	MS	SER	Y0	Y1	Y2	Y3	Y4	GND								
			Y5	Y6	Y7	Y8	Y9	Y10	Y11	Y12	Y13	Y14	Y15	VCC								
674	X	1 SHREG-16 ... PISO	CS*	CK	W*R	NC	M	SER	P0	P1	P2	P3	P4	GND								
			P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	VCC								
681	X	1 ALU-SHIFT4 ... 16-ARITH 16-LOGIC	CK	RS2	RS1	RS0	L/R	CN	G*	CN4	P*	GND	IO3	IO2	IO1	IO0	M	AS2	AS1	AS0	R/L	VCC
682	X	1 COMPARATOR ... 8-BIT EQ GT Q-PU	GT*	P0	Q0	P1	Q1	P2	Q2	P3	Q3	GND	P4	Q4	P5	Q5	P6	Q6	P7	Q7	EQ*	VCC
683	X	1 COMPARATOR ... 8-BIT EQ GT Q-PU OC	GT*	P0	Q0	P1	Q1	P2	Q2	P3	Q3	GND	P4	Q4	P5	Q5	P6	Q6	P7	Q7	EQ*	VCC
684	X	1 COMPARATOR ... 8-BIT EQ GT	GT*	P0	Q0	P1	Q1	P2	Q2	P3	Q3	GND	P4	Q4	P5	Q5	P6	Q6	P7	Q7	EQ*	VCC
685	X	1 COMPARATOR ... 8-BIT EQ GT OC	GT*	P0	Q0	P1	Q1	P2	Q2	P3	Q3	GND	P4	Q4	P5	Q5	P6	Q6	P7	Q7	EQ*	VCC
686	X	1 COMPARATOR ... 8-BIT EQ GT OE	GT*	G1*	P0	Q0	P1	Q1	NC	P2	Q2	P3	Q3	GND								
			P4	Q4	P5	Q5	P6	Q6	NC	P7	Q7	EQ*	G2*	VCC								
687	X	1 COMPARATOR ... 8-BIT EQ GT OE OC	GT*	G1*	P0	Q0	P1	Q1	NC	P2	Q2	P3	Q3	GND								
			P4	Q4	P5	Q5	P6	Q6	NC	P7	Q7	EQ*	G2*	VCC								
688	X	1 COMPARATOR ... 8-BIT EQ OE	G*	P0	Q0	P1	Q1	P2	Q2	P3	Q3	GND	P4	Q4	P5	Q5	P6	Q6	P7	Q7	EQ*	VCC
689	X	1 COMPARATOR ... 8-BIT EQ OE OC	G*	P0	Q0	P1	Q1	P2	Q2	P3	Q3	GND	P4	Q4	P5	Q5	P6	Q6	P7	Q7	EQ*	VCC
690	X	1 COUNTER-REG-10 ... TS CLR	CC*	CCK	A	B	C	D	ENP	RC*	RCK	GND	C*R	G*	LD*	ENT	QD	QC	QB	QA	RCO	VCC
691	X	1 COUNTER-REG-16 ... TS CLR	CC*	CCK	A	B	C	D	ENP	RC*	RCK	GND	C*R	G*	LD*	ENT	QD	QC	QB	QA	RCO	VCC
692	X	1 COUNTER-REG-10 ... TS SYNC-CLR	CC*	CCK	A	B	C	D	ENP	RC*	RCK	GND	C*R	G*	LD*	ENT	QD	QC	QB	QA	RCO	VCC
693	X	1 COUNTER-REG-16 ... TS SYNC-CLR	CC*	CCK	A	B	C	D	ENP	RC*	RCK	GND	C*R	G*	LD*	ENT	QD	QC	QB	QA	RCO	VCC
696	X	1 COUNTER-REG-10 ... TS UP/DN CLR	D*U	CCK	A	B	C	D	P*	CC*	RCK	GND	C*R	G*	LD*	T*	QD	QC	QB	QA	RC*	VCC
697	X	1 COUNTER-REG-16 ... TS UP/DN CLR	D*U	CCK	A	B	C	D	P*	CC*	RCK	GND	C*R	G*	LD*	T*	QD	QC	QB	QA	RC*	VCC
698	X	1 COUNTER-REG-10 ... TS UP/DN S-CLR	D*U	CCK	A	B	C	D	P*	CC*	RCK	GND	C*R	G*	LD*	T*	QD	QC	QB	QA	RC*	VCC
699	X	1 COUNTER-REG-16 ... TS UP/DN S-CLR	D*U	CCK	A	B	C	D	P*	CC*	RCK	GND	C*R	G*	LD*	T*	QD	QC	QB	QA	RC*	VCC
716	X	1 COUNTER-10 ... MOD-N	Q3	D3	PE*	GAT	D0	CK	Q0	GND	Q1	MR*	D1	BUS	R	D2	Q2	VCC				
718	X	1 COUNTER-16 ... MOD-N	Q3	D3	PE*	GAT	D0	CK	Q0	GND	Q1	MR*	D1	BUS	R	D2	Q2	VCC				
795	X	8 BUFFER ... TS ENBL-8	G1*	A1	Y1	A2	Y2	A3	Y3	A4	Y4	GND	Y5	A5	Y6	A6	Y7	A7	Y8	A8	G2*	VCC
796	X	8 BUFFER ... TS INV ENBL-8	G1*	A1	Y1	A2	Y2	A3	Y3	A4	Y4	GND	Y5	A5	Y6	A6	Y7	A7	Y8	A8	G2*	VCC
797	X	8 BUFFER ... TS ENBL-4+4	G1*	A1	Y1	A2	Y2	A3	Y3	A4	Y4	GND	Y5	A5	Y6	A6	Y7	A7	Y8	A8	G2*	VCC
798	X	8 BUFFER ... TS INV ENBL-4+4	G1*	A1	Y1	A2	Y2	A3	Y3	A4	Y4	GND	Y5	A5	Y6	A6	Y7	A7	Y8	A8	G2*	VCC
848	X	1 PRIORITY-ENCDR ... 8/3 TS LO-GLTCH	I4*	I5*	I6*	I7*	EI*	A2*	A1*	GND	A0*	I0*	I1*	I2*	I3*	GS*	EO*	VCC				
940	S	8 BUFFER ... TS COM-ENBL INV	1G*	1A1	2Y4	1A2	2Y3	1A3	2Y2	1A4	2Y1	GND	2A1	1Y4	2A2	1Y3	2A3	1Y2	2A4	1Y1	2G*	VCC
941	S	8 BUFFER ... TS COM-ENBL	1G*	1A1	2Y4	1A2	2Y3	1A3	2Y2	1A4	2Y1	GND	2A1	1Y4	2A2	1Y3	2A3	1Y2	2A4	1Y1	2G*	VCC
952	X	1 SHREG8 ... DUAL-RANK I/O	OD	SI	ID	TUD	TDD	SD	SO	CK	GND	IO8	IO7	IO6	IO5	IO4	IO3	IO2	IO1	VCC		
962	X	1 SHREG8 ... DUAL-RANK I/O XCHG	OD	SI	ID	TUD	TDD	SD	SO	CK	GND	IO8	IO7	IO6	IO5	IO4	IO3	IO2	IO1	VCC		

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